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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/580,264

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Remy Collier

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EXAMINER

KRYLOVA, IRINA

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/580,264	Applicant(s) COLLIER ET AL.	
	Examiner Irina Krylova	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6,8 and 11-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6,8 and 11-18 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed by Applicant on March 10, 2010 has been fully considered. The amendment to claims 6, 8 and 16, cancellation of claims 1-5, 7, 9-10 and addition of new claim 18 are acknowledged. Specifically, claim 6 has been amended to include the limitations of the foam being a solid foam formed of cross-linked exclusively hydrocarbon copolymer of styrene and divinylbenzene, wherein the styrene and divinylbenzene monomers represent from 40-60%wt of organic phase and the sorbitan monooleate represents 20-30%wt of organic phase, and the cell having a mean cell diameter of between 2 and 10 micrometers. These limitations in their combination were not previously presented and were taken from original claims 4, 7, 9, 10, now cancelled. The limitations of newly added claim 18 were taken from original claim 8. In light of Applicant's amendment filed on March 10, 2010, the rejection of claim 3 and 8 under 35 USC 112, second paragraph is withdrawn. All previous prior art rejections are maintained. The new grounds of rejections necessitated by Applicant's amendment filed on March 10, 2010 are set forth below. These new grounds of rejections are based on the previously applied prior art but are presented in a different way to better address the limitations as presented in the amended claims. Thus, the following action is made final.

Claim Objections

2. Claim 18 is objected to for the use of "preferable" ranges and limitations. The claim is definite because one of ordinary skill in the art recognizes that the "preferable" ranges

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and limitations are optional or exemplary, and not express recitations of the claims.

However, such limitations have not traditionally been used in U.S. patent claims.

Therefore, the examiner requests that this limitation be rewritten to remove the word "preferably".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6, 8, 11-13, 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hird et al** (US 2003/0091610) in view of **Catalfamo et al** (US 6,369,121) and **Ko et al** (US 2003/0134918), as evidenced by **Cawiezel et al** (US 5,633,220) and **Lin et al** (US 5,948,855).

The rejection is adequately set forth on pages 4-8 of an Office Action mailed on September 11, 2009 and is incorporated here by reference.

4. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hird et al** (US 2003/0091610) in view of **Catalfamo et al** (US 6,369,121) and **Ko et al** (US 2003/0134918), as evidenced by **Cawiezel et al** (US 5,633,220) and **Lin et al** (US

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5,948,855), as applied to claim 6, in further view of **Sasabe et al** (US 2003/0036575), as evidenced by Lenntech/deionized water flyer.

The rejection is adequately set forth on pages 8-10 of an Office Action mailed on September 11, 2009 and is incorporated here by reference.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hird et al** (US 2003/0091610) in view of **Catalfamo et al** (US 6,369,121) and **Ko et al** (US 2003/0134918), as evidenced by **Cawiezel et al** (US 5,633,220) and **Lin et al** (US 5,948,855), as applied to claim 6, in further view of **Mork et al** (US 6,303,834).

The rejection is adequately set forth on pages 10-11 of an Office Action mailed on September 11, 2009 and is incorporated here by reference.

6. Claims 6, 8, 11-13, 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **DesMarais et al** (US 5,331,015) in view of **Catalfamo et al** (US 6,369,121) and **Ko et al** (US 2003/0134918), as evidenced by **Cawiezel et al** (US 5,633,220) and **Lin et al** (US 5,948,855).

The rejection is adequately set forth on pages 12-16 of an Office Action mailed on September 11, 2009 and is incorporated here by reference.

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7. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **DesMarais et al** (US 5,331,015) in view of **Catalfamo et al** (US 6,369,121) and **Ko et al** (US 2003/0134918), as evidenced by **Cawiezel et al** (US 5,633,220) and **Lin et al** (US 5,948,855), as applied to claim 6, in further view of **Sasabe et al** (US 2003/0036575), as evidenced by Lenntech/deionized water flyer.

The rejection is adequately set forth on pages 16-18 of an Office Action mailed on September 11, 2009 and is incorporated here by reference.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over **DesMarais et al** (US 5,331,015) in view of **Catalfamo et al** (US 6,369,121) and **Ko et al** (US 2003/0134918), as evidenced by **Cawiezel et al** (US 5,633,220) and **Lin et al** (US 5,948,855), as applied to claim 6, in further view of **Mork et al** (US 6,303,834).

The rejection is adequately set forth on pages 18-19 of an Office Action mailed on September 11, 2009 and is incorporated here by reference.

9. Claims 6, 8, 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sasabe et al** (US 2003/0036575) in view of **Catalfamo et al** (US 6,369,121), **Ko et al** (US 2003/0134918), **Cawiezel et al** (US 5,633,220), **Lin et al** (US 5,948,855) and Lenntech/deionized water flyer.

10. Sasabe et al discloses a process for preparation of a porous cross-linked polymer ([0067]) comprising HIPE polymerization comprising the following steps:

- 1) combining 30-99%mass, preferably 30-70%mass ([0074]) of a polymerizing monomer, specifically styrene ([0073]); 0.1-90%mass, preferably 30-70%mass ([0078]), of a cross-linking monomer, specifically divinylbenzene ([0077], as to instant claims 8, 18), a surfactant, specifically sorbitan monooleate ([0081]) and additives for the formation of oil phase ([0106]);
 - 2) combining water, a polymerization initiator comprising sodium persulfate in amount of 0.05-25 mass parts (as to instant claim 13, cited in [0091], [0093]), polyvalent sulfate salt in amount of 0.1-20 mass parts (as to instant claim 12, cited in [0100]-[0101]) and additives for the formation of water phase ([0107]);
 - 3) joining, mixing and stirring the oil phase and the water phase ([0108], wherein the temperature for forming a HIPE is 20-110°C (as to instant claim 16, cited in [0114], [0126]), the ratio of water phase to oil phase is 10/1 to 250/1 ([0110]);
 - 4) washing, slicing ([0128]-[0129]) and drying the porous polymer ([0138]-[0141]).
- Sorbitan monooleate is used in amount of 1-30 mass parts based on 100 mass parts of the total mass of monomer composition ([0085]).

11. All ranges in the process of **Sasabe et al** are overlapping with the corresponding ranges as claimed in the instant invention. It is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is

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established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir. 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974)

12. Though **Sasabe et al** does not explicitly recite the porous polymer as being solid, however, since **Sasabe et al** discloses a step of slicing the polymer, therefore, it would have been obvious to a skilled artisan that the cross-linked porous polymer is solid.

13. Though styrene and divinylbenzene are listed by **Sasabe et al** among other monomers as examples of a polymerizable monomer and a cross-linking monomer, respectively, however, **Sasabe et al** discloses the use of a polymerizable monomer and a cross-linking monomer (see [0070]), thus meaning one monomer of each type, and case law holds that the selection of a known material based on its suitability for its intended use supports prima facie obviousness. *Sinclair & Carroll Co vs. Interchemical Corp.*, 325 US 327, 65 USPQ 297 (1045). Therefore, it would have been obvious to a skilled artisan to choose a styrene monomer and a divinylbenzene monomer as well.

14. As to instant claim 11, though **Sasabe et al** does not explicitly states the use of aluminum sulphate as an electrolyte, however, since **Sasabe et al** specifies the use of polyvalent inorganic salts such as sulfates, therefore, it would have been obvious to a one of ordinary skill in the art to use the aluminum sulphate salt as well. Case law holds

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that the selection of a known material based on its suitability for its intended use supports prima facie obviousness. *Sinclair & Carroll Co vs. Interchemical Corp.*, 325 US 327, 65 USPQ 297 (1045). Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

15. As to instant claims 14-15, **Sasabe et al** discloses the use of deionized water ([0087]). Though **Sasabe et al** does not specify the resistivity of deionized water, however, it is known in the art that deionized water is a very high purity water wherein theoretically 100% of salts can be removed (see p. 1 in Lenntech/deionized water flyer). The deionized water can have a resistivity of 10-18 megaohm (see Table on p.4 of Lenntech/deionized water flyer).

16. **Sasabe et al** fails to teach the use of ethylbenzene solvent and the drying step comprising drying with supercritical carbon dioxide.

17. **Catalfamo et al** discloses a HIPE polymerization process for making foams wherein the ratio of water to oil phase is 4:1 to 250:1, and wherein the oil phase comprises benzene, toluene and xylene (col. 3, lines 33-62).

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18. Though ethylbenzene is not explicitly stated by **Catalfamo et al** as the used oily material, nevertheless, since **Catalfamo et al** recites the use of xylene as an oily material, and it is known in the art that 1) both ethylbenzene and xylene are used as oil phase in water-in-oil emulsions for making drugs for their intoxicating properties (see col. 5, lines 48-60 in **Lin et al**); 2) ethylbenzene is a constituent usually present in xylene solvent and 3) it is known in the art that ethylbenzene is used as a solvent in internal phase water in oil emulsions (see col. 5, lines 60-65 in **Cawiezel et al**), therefore, it would have been obvious to a one of ordinary skill in the art to use the ethylbenzene as a solvent in oily material in the HIPE of **Sasabe et al** as well.

19. **Ko et al** discloses a method for making high internal phase emulsion foam(HIPE), wherein after the polymerization reaction, the remaining components of the oil phase may be removed after polymerization by washing with a volatile organic solvent and extraction with supercritical carbon dioxide ([0044]) to produce a foam having improved fluid intake rate (see [0005]). Though **Ko et al** does not explicitly recite the volatile organic solvent being an alcohol, however, since alcohol is a volatile organic solvent, therefore, it would have been obvious to a skilled artisan to use alcohol for washing the foam as well. Case law holds that the selection of a known material based on its suitability for its intended use supports prima facie obviousness. *Sinclair & Carroll Co vs. Interchemical Corp.*, 325 US 327, 65 USPQ 297 (1045). Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior

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art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

20. Since

1) **Sasabe et al** in view of **Catalfamo et al**, **Cawiezel et al** and **Lin et al** disclose a process for producing the porous polymer comprising forming a stable high internal phase emulsion of an oil phase and an aqueous phase; polymerizing and curing the stable emulsion under conditions suitable for forming porous polymeric structure, compressing, washing and drying the porous polymeric structure to remove the residual materials, but fail to teach the use of supercritical carbon dioxide removing the residual materials;

2) **Ko et al** discloses a method for making high internal phase emulsion foam(HIPE), wherein after the polymerization reaction, the remaining components of the oil phase may be removed after polymerization by washing with a volatile organic solvent and extraction with supercritical carbon dioxide ([0044]) to produce a foam having improved fluid intake rate (see [0005]),

therefore,

it would have been obvious to a one of ordinary skill in the art at the time of the invention was made, to apply washing with a volatile organic solvent and extraction with supercritical carbon dioxide step of **Ko et al** in the process of **Sasabe et al** in view of **Catalfamo et al**, **Cawiezel et al** and **Lin et al**, to improve the extraction of residual

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materials in the foam and to produce the foam having improved fluid intake rate (see **Ko et al** [0005]).

21. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Sasabe et al** (US 2003/0036575) in view of **Catalfamo et al** (US 6,369,121), **Ko et al** (US 2003/0134918), **Cawiezel et al** (US 5,633,220), **Lin et al** (US 5,948,855) and **Mork et al** (US 6,303,834).

22. The discussion with respect to **Sasabe et al** (US 2003/0036575) in view of **Catalfamo et al** (US 6,369,121), **Ko et al** (US 2003/0134918), **Cawiezel et al** (US 5,633,220), **Lin et al** (US 5,948,855) set forth in paragraphs 9-20 above, is incorporated here by reference.

23. Sasabe et al in view of **Catalfamo et al**, **Ko et al**, **Cawiezel et al** and **Lin et al** fail to specify the polyvalent metal sulphate salt used as an electrolyte, being an aluminum sulfate.

24. Mork et al discloses a process for producing an open-cell foam by HIPE polymerization of styrene, divinylbenzene, wherein the used electrolyte comprises halides and sulfates of aluminum, lithium and magnesium (col. 4, lines 13-33).

25. Since

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1) **Sasabe et al** in view of **Catalfamo et al**, **Ko et al**, **Cawiezel et al** and **Lin et al**

disclose a low density foam produced by HIPE polymerization, but fail to specify the polyvalent metal sulphate electrolyte being an aluminum sulphate;

2) **Mork et al** discloses a process for producing an open-cell foam by HIPE

polymerization of styrene, divinylbenzene, wherein the used electrolyte comprises halides and sulfates of aluminum, lithium and magnesium (col. 4, lines 13-33);

therefore,

it would have been obvious to a one of ordinary skill in the art at the time of the invention was made to use aluminum sulphate as a electrolyte in the HIPE

polymerization process of **Sasabe et al** in view of **Catalfamo et al**, **Ko et al**, **Cawiezel**

et al and **Lin et al** as well, as it would have been obvious to substitute one equivalent

for another used for the same purpose (see MPEP 2144.06 II). Case law holds that the

selection of a known material based on its suitability for its intended use supports prima

facie obviousness. *Sinclair & Carroll Co vs. Interchemical Corp.*, 325 US 327, 65 USPQ

297 (1045). Case law holds that the mere substitution of an equivalent (something equal

in value or meaning, as taught by analogous prior art) is not an act of invention; where

equivalency is known to the prior art, the substitution of one equivalent for another is not

patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

Response to Arguments

26. Applicant's arguments filed on March 10, 2010 have been fully considered.

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27. Regarding the rejection of claims 6, 8, 11-13, 16-18 under 35 U.S.C. 103(a) as being unpatentable over **Hird et al** (US 2003/0091610) in view of **Catalfamo et al** (US 6,369,121) and **Ko et al** (US 2003/0134918), as evidenced by **Cawiezel et al** (US 5,633,220) and **Lin et al** (US 5,948,855); claims 14-15 under 35 U.S.C. 103(a) as being unpatentable over **Hird et al** (US 2003/0091610) in view of **Catalfamo et al** (US 6,369,121), **Ko et al** (US 2003/0134918), as evidenced by **Cawiezel et al** (US 5,633,220) and **Lin et al** (US 5,948,855), in further view of **Sasabe et al** (US 2003/0036575), as evidenced by Lenntech/deionized water flyer; claim 11 under 35 U.S.C. 103(a) as being unpatentable over **Hird et al** (US 2003/0091610) in view of **Catalfamo et al** (US 6,369,121), **Ko et al** (US 2003/0134918), as evidenced by **Cawiezel et al** (US 5,633,220) and **Lin et al** (US 5,948,855), in further view of **Mork et al** (US 6,303,834), Applicant argues that

a) instant claim 6 recites “ a solid polymer foam, which is formed of a crosslinked, exclusively hydrocarbon copolymer of styrene and divinylbenzene”, wherein **Hird et al** discloses a list of monomers that could be used in combination, but does not disclose which specific monomers could be used in combination. The only place **Hird et al** cites divinylbenzene is in paragraph [0142], wherein the combination includes three different monomers.

28. Examiner disagrees.

1) **Hird et al** discloses a process for producing the foam comprising: forming a stable high internal phase emulsion of an oil phase and an aqueous phase having the ratio

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between aqueous and oil phase ranging between 8:1 to 140:1 ([0072]); polymerizing and curing the stable emulsion under conditions suitable for forming cellular polymeric structure at above 50°C, alternatively above about 65°C ([0078]); and compressing and washing the cellular polymeric structure ([0070]); wherein:

the oil phase comprises:

- A) 20-95%wt of at least one monofunctional monomer, including substituted C4-C12 styrenics ([0052]);
- B) 5-80%wt of a polyfunctional crosslinking agent comprising divinylbenzene ([0053]);
- C) 0-70%, alternatively 15-40%wt, of styrene ([0054]);
- D) 1-20% of emulsifier comprising SPAN 80, i.e. sorbitan monooleate ([0057], [0059]).

2) Therefore, **Hird et al** teaches that the oil phase should comprise a monofunctional monomer such as substituted styrenic monomer and a polyfunctional cross-linking agent such as divinylbenzene. The term "at least one monofunctional monomer" means that substituted styrenic monomer may be used as a single monofunctional monomer. Thus, the combination of monofunctional styrenic monomer with polyfunctional divinylbenzene monomer is within the teachings of **Hird et al** as well and the foam of **Hird et al** is produced from only styrenic monomers.

3) Further, case law holds that the selection of a known material based on its suitability for its intended use supports prima facie obviousness. *Sinclair & Carroll Co vs. Interchemical Corp.*, 325 US 327, 65 USPQ 297 (1045). Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by

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analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

4) Furthermore, the instant claim 6 recites that “the solid foam is formed of a crosslinked exclusively hydrocarbon copolymer of styrene and divinylbenzene”. The term “exclusively” relates to a hydrocarbon copolymer and means that no copolymers other than a copolymer of styrene and divinylbenzene are being used. However, that does not mean that the copolymer of styrene and divinylbenzene cannot comprise other comonomers.

29. Regarding the rejections of claims 6, 8, 11-13, 16-18 under 35 U.S.C. 103(a) as being unpatentable over **DesMarais et al** (US 5,331,015) in view of **Catalfamo et al** (US 6,369,121), **Ko et al** (US 2003/0134918), as evidenced by **Cawiezel et al** (US 5,633,220) and **Lin et al** (US 5,948,855); claims 14-15 under 35 U.S.C. 103(a) as being unpatentable over **DesMarais et al** (US 5,331,015) in view of **Catalfamo et al** (US 6,369,121), **Ko et al** (US 2003/0134918), as evidenced by **Cawiezel et al** (US 5,633,220) and **Lin et al** (US 5,948,855) in further view of **Sasabe et al** (US 2003/0036575) and Lenntech/deionized water flyer, and claim 11 under 35 U.S.C. 103(a) as being unpatentable over **DesMarais et al** (US 5,331,015) in view of **Catalfamo et al** (US 6,369,121), **Ko et al** (US 2003/0134918), as evidenced by **Cawiezel et al** (US 5,633,220) and **Lin et al** (US 5,948,855), in further view of **Mork et al** (US 6,303,834), applicant argues that

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a) instant claim 6 recites “ a solid polymer foam, which is formed of a crosslinked, exclusively hydrocarbon copolymer of styrene and divinylbenzene”, wherein **DesMarais et al** discloses that “both the monofunctional glassy principal monomer, preferably styrene, and the monofunctional rubbery comonomer must be present in the oil phase”. **DesMarais et al** further discloses that the polyfunctional cross-linking agent, added to the monomer and co-monomer, can be selected from a wide variety of polyfunctional monomers including divinylbenzene.

30. Examiner disagrees.

1) Though **DesMarais et al** discloses the presence of the rubbery co-monomer such as butadiene, however, the instant claim 6 recites that “the solid foam is formed of a crosslinked exclusively hydrocarbon copolymer of styrene and divinylbenzene”. The term “exclusively” relates to a hydrocarbon copolymer and means that no copolymers other than a copolymer of styrene and divinylbenzene are being used. However, that does not mean that the copolymer of styrene and divinylbenzene cannot comprise other comonomers, including the rubbery co-monomer.

2) Further, **DesMarais et al** teaches that the cross-linking agent found to be suitable for preparing the most acceptable foam from the HIPE emulsions is divinylbenzene (col. 17, lines 65-68; col. 18, lines 1-3). Therefore, though **DesMarais et al** discloses different possible cross-linking agents, however, it would have been obvious to a skilled artisan to choose divinylbenzene since it produces the most acceptable foam from HIPE emulsions.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina Krylova whose telephone number is (571)270-7349. The examiner can normally be reached on Monday-Friday 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Irina Krylova/
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796